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Michael Sever* (sever@math.huji.ac.il), The Hebrew University, Department of Mathematics, Jerusalem, Israel. *Large-data solution of the Cauchy problem for a model system for singular shocks.*

A modified wave front tracking algorithm is used to find distribution solutions of a pair of conservation laws known as the Keyfitz-Kranzer system or as a model system for singular shocks. As expected, even for smooth, sufficiently large data, singular shocks will appear after finite time. The regular part of the solution, however, is of lower regularity than was anticipated. Locally bounded variation is generally repeatedly lost and regained; we obtain bounds in the space of functions of bounded quadratic variation. (Received August 12, 2008)